

## **City of Eureka Parcel M Biosolids Land Application Project Details**

Land application of 2-5% solids content Class B biosolids to approximately 65 acres of farmed wetlands.

### **Application area:**

City owned; Classified as Diked Bay Lands by US Army Corp of Engineers

2-4 feet Mean Sea Level, former bay lands (tide flats)

Separated from adjacent Humboldt Bay by a "rubble-mounded" seawall built in 1911.

Separated from Elk River and tidally influenced salt marsh by sand dunes to the North

Separated from portion of Elk River lying to the east of the application site by Highway 101

Used for 20 years (1989 to 2009) as City's biosolids land application area

Parcel M is actually 2 parcels totaling 93.2 acres.

Designated application area is approximately 80 acres.

Biosolids will be applied to approximately 65 acres of the 80 acres due to set back areas and roadways.

Receives portion of Highway 101 runoff via culvert.

Rain & Highway 101 runoff drains from application site via network of drainage ditches & a culvert directed under Highway 101 which discharges directly to the Elk River through a tidal gate.

Application area used to grow grass hay for animal feed.

Hay will be cut and green-baled for silage.

Post-harvest the application area will be managed for the benefit of Aleutian Geese Habitat.

Predominate soil series is Bayside silty-clay loam, identified as poorly drained, fine textured basin soils.

### **Biosolids:**

WWTP produces approximately 450 dry tons of biosolids annually

Currently have stored in sludge lagoons: 4,000 dry tons

Proposal of applying between 3 to 8 dry tons/acre will equate to anywhere from 195 to 520 dry tons of biosolids applied each year.

### **Conditions proposed for application:**

Between June 1<sup>st</sup> and September 30<sup>th</sup> of each year, dependent on moisture content of field and weather.

"Not applied in the rain or when field is too wet."

Application will start when separation to groundwater is 3 feet from the soil surface.

Anticipate groundwater levels to drop and separation to increase as dry season progresses.

Set back of 5 feet from on-site drainage ditches.

Sprayed on to field and immediately disked in to top 6" of soil.

Quoted Agronomic application rate: 14.53 dry ton/acre (for grass hay)

Proposed Application rate: 3 to 8 dry tons/acre

### **Conversion Calculations Provided**

| Dry Ton / Acre | Gallons / Acre | Wet Ton / Acre | Inches / Acre |
|----------------|----------------|----------------|---------------|
| 14.53          | 116,240        | 484            | 4.26          |
| 4              | 32,000         | 133            | 1.17          |

Propose a rate lower than agronomic rate because 4.26 inches of 2-5% solids content biosolids would saturate the soil and create runoff.

### **Permitting**

US ACOE requiring a Section 10 Permit.

US ACOOE not requiring a 404 permit because do not consider the biosolids to be “fill” material due to solids content and organic nature.

California Coastal Commission (CCC) issued a Coastal Development permit in 1984 that is still valid as per CCC.